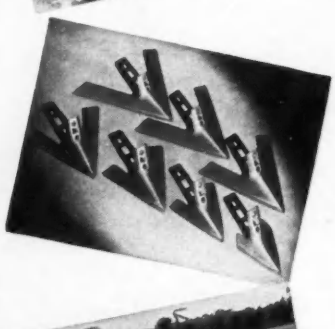
NOVEMBER • 1954

American Vegetable Grower

Plan NOW to Attend the VGAA Convention



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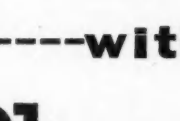

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LETTERS TO THE EDITOR

Antibiotics for Mildew

Dear Editor:

We are interested in information on the use of antibiotics for combating fungus-type diseases. We are growers of hothouse cucumbers and have a real problem with mildews, etc.

Newark, Calif. — Frank M. Jacobs and John A. McConnell

See "New Spray Halts Disease" on page 11, October, 1954, AMERICAN VEGETABLE GROWER and "Streptomycin Controls Halo Blight" on page five, November, 1953, issue. Most promising results have occurred when antibiotics were used against bacterial-type diseases such as halo blight, bacterial spot, and fire blight. For further information write Charles Pfizer Co., Inc., 630 Flushing Ave., Brooklyn 6, N. Y., manufacturers of antibiotics.—Ed.

Vegetable Disease Manual

Dear Editor:

How can I get the new manual on vegetable diseases and their control which Dr. Chupp is working on and which was mentioned on page 10 of your August issue? I am a commercial grower of vegetable and flower plants.

New York — Chas. H. Weitzel

For additional information in regard to his forthcoming manual, we suggest you write direct to Dr. Charles D. Chupp, Department of Plant Pathology, Cornell University, Ithaca, N. Y.—Ed.

Grading Pepper Seed

Dear Editor:

I am interested in grading pepper seed so that the larger, stronger seed can be separated and so that the flats in the greenhouse will be more uniform. I have heard there is a machine that separates the seed with a controlled air blast. Can you tell me where such a machine can be purchased?

Shiloh, N. J. — E. H. Sheppard

Victor R. Boswell, head of the Division of Vegetable Crops & Diseases of the USDA at Beltsville, Md., has the following to say in regard to the grading of pepper seed and the manufacturers of machines for this purpose:

"The Ames Powercount Company, Brookings, S. D., makes a device for seed separation by an air blast for use in seed analytical laboratories. I believe, however, that this is adapted only to rather small samples. Furthermore, it is a relatively precise instrument that is not exactly inexpensive to buy.

"The Seedburo Equipment Company, 618 W. Jackson Blvd., Chicago 6, Ill., manufactures another laboratory device called the 'Bates Aspirator.' Our people have used this device and believe that it would serve the purpose, at least in part, especially for blowing out the flatter, thinner seeds that are relatively light in weight. It may not, however, give the kind of separation that is desired on seeds that are all well filled and plump but which differ in size only. The latest information we have indicates that this Bates Aspirator sells for around $200.

"A little 'table model' seed cleaner is manufactured by the A. T. Farrell Company, Saginaw, Mich. This device is equipped to take two screens and has a fan to blow out light stuff.

"It would be advisable to obtain a series of screens with round holes ranging in size from, say, 14 down to seven or eight. Depending on the condition of the crop of seed, a little different separation might have to be made with some lots of seed than with others. Screens for this small machine are not expensive, so it would do no harm to have a fairly complete set.

"This little screening and fanning mill, I am sure, will cost considerably less than the prices mentioned above, and although it might not do quite the precise job that the other devices will do, I am inclined to think it may meet the purpose reasonably well."—Ed.

Rotates Crops for Quality Yields

Dear Editor:

Practical experience has taught us here in Atlantic County, New Jersey, that crop rotations are necessary to maintain good yields of high quality.

In planning crop rotations, reduce the acreage of the main crops by a few acres and include a quarter or a fifth of the acreage in a sod or soil-resting crop for one year. This practice is important to the vegetable grower who expects to continue in business for years to come. The first two years and possibly the third, a reduction in yield and probably income may be experienced but after this you can look for increased yields on a smaller and concentrated area.

Broccoli, cabbage, cauliflower, and other similar crops must be rotated to maintain good yields. We have noticed that when we plant the same crop on the same ground the second year, not only a reduction in yield takes place but club root and other diseases also become more prevalent. Trouble also occurs when melons follow melons or cucumbers follow cucumbers or other of the vine crops. And sweetpotatoes should be rotated every three years if you want to keep sweetpotato pox out of your fields. After three years our sweetpotato fields are planted to tomatoes. Then they are sowed to rye and plowed under in late spring and sowed to cowpeas, which our hogs root down, as this field is fenced in for pasture also. We have found this system pays well.

Hammonton, N. J. — C. A. Umosella

Cartons for Vegetable Plants

Dear Editor:

Could you please inform me where I can get some light weight cartons for shipping vegetable plants?

Reidsville, N. C. — Bruce Gunn

We suggest you write the following companies: Fruit & Produce Packing Co., 700 West Morris, Indianapolis 6, Ind.; Wabash Fibre Box Co., Terre Haute, Ind.; and Ohio Boxboard Co., Rittman, Ohio.—Ed.

American

VEGETABLE GROWER

REG. U. S. PAT. OFF.

(Commercial Vegetable Grower)

Vol. 2 November 1954 No. 11

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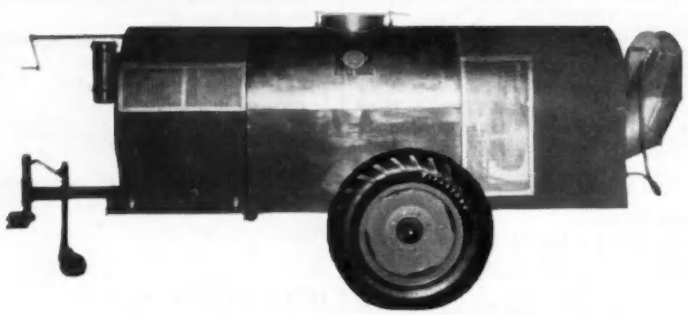

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TRAY PACKED TOMATOES

An expert's thoughts on a confused situation

HAVE prepackaged tomatoes hurt the tomato deal? Many growers ask whether tomato prepackaging is coming or going. It is no secret that poor quality and shrinking pack have made consumers wary.

To find an answer to these problems, AMERICAN VEGETABLE GROWER queried Sam DiFranco of the New England Tomato Company, Los Angeles, Calif., whose company pioneered in tomato packaging 15 years ago. They pack as high as 60,000 individually over-wrapped packages a day.

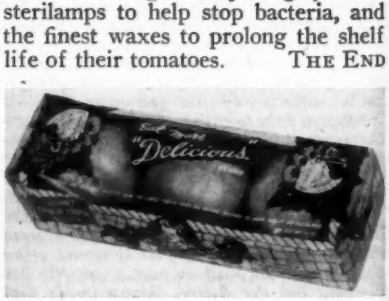
Mr. DiFranco believes that packaged tomatoes are here to stay, not so much because the housewife prefers them but because self-service stores demand packaged tomatoes. Some of the reasons for this preference are ease in handling and selling and a minimum of waste. Also, since the individual fruits cannot be handled by the prospective buyer, packaged tomatoes are sanitary and clean.

Who's to Blame?

Mr. DiFranco is inclined to place the blame for inferior packaged tomatoes on the shoulders of the buyer and seller. The tomato deal is being handled on a highly speculative basis instead of on a sound cost plus reasonable profit basis.

In addition, poor management in the retail market and over-buying by retail buyers are causes for loss of quality. "In some cases," DiFranco says, "buyers of packaged tomatoes are looking for 'machine molded' tomatoes, they pay an exceptionally high price, and then try for premium prices such as a 100 per cent mark-up. This type of buyer is detrimental to the packaged tomato business.

The New England Company strives for a quality pack through the use of modern cooling and ripening systems, sterilamps to help stop bacteria, and the finest waxes to prolong the shelf life of their tomatoes. THE END



Celanese acetate overwrap for "Delicious" tomatoes, packaged by the New England Tomato Company, Los Angeles, Calif. Wrap is made by Shellmar Products Corp., South Gate, Calif.

You Are Invited to the

VGAA CONVENTION

in SYRACUSE

Secretary Shelly extends this personal invitation to you to take part in the 46th annual meeting of the association

By JOSEPH S. SHELLY

THE Vegetable Growers Association of America welcomes this opportunity to invite and urge vegetable growers to attend the 46th annual convention in Syracuse, N. Y., November 29 to December 2, 1954. The Hotel Syracuse will be official headquarters. Meetings and exhibits will be at the Onondaga County War Memorial Building.

This year's convention will be held in co-operation with the National Greenhouse Association, Empire State Potato Club, and the New York State Vegetable Growers Association. This year's Convention and Trade Show promises to be one of the biggest and best in the history of the Association.

Syracuse is an ideal convention city with its excellent facilities to handle large groups. The city is surrounded by a rich agricultural area in which vegetables and potatoes are the predominating cash crops. The War Memorial Building, in which the meetings will be held and where the trade show is housed, was erected by the people of Onondaga County. The Hotel Syracuse, official headquarters, and Onondaga Hotel are within a short distance of the War Memorial Building.

An outstanding trade show featuring the latest equipment and supplies used in the vegetable industry will be a feature of the convention.

A convention of vegetable growers is more than just a meeting at which to have a good time. Its values cannot be measured in dollars and cents. A convention provides an opportunity for fellowship and exchange of ideas of vegetable growers from different sections of the country. The program and trade show are a part of the program designed to assist the grower in solving his problems. An idea gathered at a convention may be worth hundreds of dollars in a year's operation. This is a meeting of the growers' association, providing an opportunity for every member to express his viewpoints and participate in the policy-making.

A reception at the Hotel Syracuse on Monday evening will feature Mr. and Mrs. John Carew of Cornell University. Their subject will be, "Among Vegetable Growers in Europe."

See page 10 for detailed program of VGAA convention.

The Tuesday afternoon session will include an address by Dr. Homer Thompson, a widely known authority on vegetable production, author and traveler, formerly professor of vegetable crops at Cornell University, and honorary member of the VGAA, followed by a discussion on "Neighborly Trade in Vegetables" by E. G. Paige, Fruit and Vegetable Division, Canadian Department of Agriculture, and Gus Burmeister, Foreign Agricultural Service, USDA.

The sectional meetings on Wednesday and Thursday will be devoted to problems associated with the vegetable industry in general, with potato production, greenhouse vegetable growing, muck crops and marketing. Association business sessions will be conducted on each of the three days the convention is in session.

A breakfast tour of the Syracuse Produce Market and the P and G Warehouse has been planned for Wednesday morning. Information on a tour of Cornell University on Friday will be available at the convention for those persons who may be interested in visiting the campus.

The Vegetable Growers Association of America is the only national association of vegetable growers. All vegetable growers are welcome to attend. This is a good time to plan a trip away from the farm, which will pay you rewarding dividends.

For hotel reservations, write to the Hotels Syracuse, Onondaga, Hilton, or Truax, Syracuse, N. Y. For further details concerning the convention write direct to me, addressing your inquiry to Joseph S. Shelly, Secretary, 528 Mills Bldg., 17th & Pennsylvania Ave., N. W., Washington 6, D. C.

From Michigan's sandy soil comes co-op-grown and packed Millburg Queen asparagus. At left, Aaron Weber shows how spears are snapped. He rides a machine pulled by a tractor. As he fills each box, he sets it off and puts on another. In picture above, note request to keep the asparagus refrigerated.

Tailoring SUPPLY TO MEET DEMAND

Michigan asparagus growers stabilize their market with unique co-operative arrangement

By ELDON S. BANTA

ASPARAGUS is an old crop in Michigan. The sandy soil and the Michigan climate create excellent growing conditions. But knowing how to grow the crop is only half the job. Knowing how and when to market it is the other half.

Five years ago asparagus growers in Van Buren County in southwestern Michigan decided it was time to streamline the marketing of the crop they grew so well. They organized what is now known as the Michigan Asparagus Growers Co-operative Association. The purpose of the new organization was to promote the sale of, and to find new markets for Michigan asparagus.

Myron Dowd, president of the group, and his staff soon learned that they had a real job to do. One of their first observations was that only a given quantity of fresh asparagus can go on the market at a given time without depressing the price. They hit upon the idea of balancing the fresh market supply with frozen asparagus.

The growers approached Max Smith, manager of the Millburg Growers Exchange, to see if his fruit growers' organization could help them out. Max and his board of directors viewed the asparagus proposition with skepticism for the first year. Then, after carefully studying the problems involved, they decided that it was a mutually beneficial arrangement.

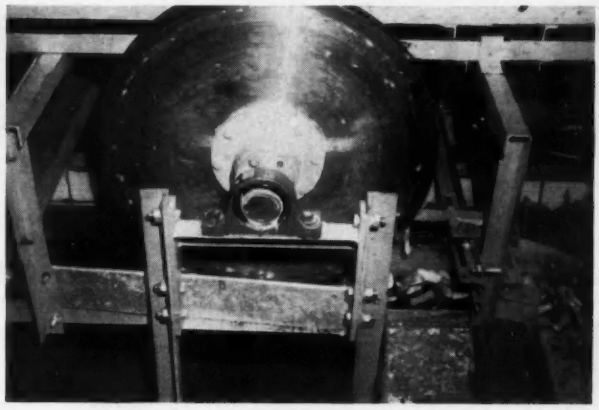
The Millburg Growers Exchange storage and packing plant had extensive facilities for quick-freezing fruits. The asparagus growers thought these facilities could be used in the packaging and processing of asparagus. They asked Max Smith and his organization to handle the grading, processing, and marketing of their crop. An agreement was drawn up between the two groups.

The Millburg Growers Exchange this year installed a complete line for washing, grading, and packing fresh asparagus in its fruit processing room. Another line was installed to process and package asparagus for freezing. These plant facilities worked in very well, because no fruit processing is done in the asparagus season.

The arrangement is working harmoniously and to the advantage of each group. Manager Smith is in an excellent position to contact buyers and to find new market outlets. Having a large quantity available at any given time is another marketing advantage.

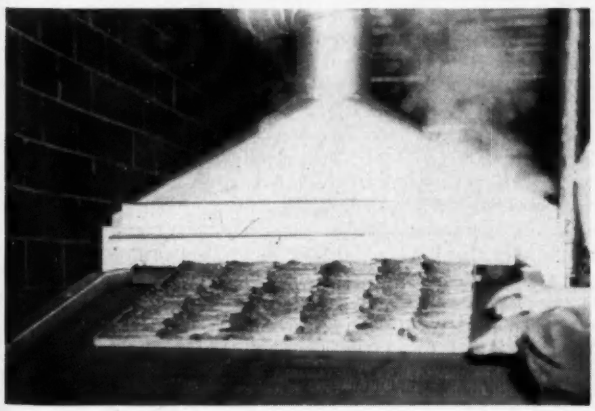
The Michigan Asparagus Growers Co-operative Association now numbers nearly 300 members. Each member pays into the association $1 per year for membership plus one cent per pound for all asparagus sold through the co-operative. This fee covers operating expenses. While membership now represents only a small percentage of the asparagus acreage in Michigan, it is steadily growing.

One big advantage the Michigan growers get from their organized effort is above-average price for their products. When the fresh market is well supplied, they can divert to freezing and thus not contribute to depressing market prices. The Michigan growers feel that the idea can be adapted to other crops in other sections of the country. THE END



First stop for asparagus at Millburg plant is stericooler (top left). Spears are arranged and cut into nine-inch lengths by cutting machine (top right). Those destined for the fresh market are then weighed into one-pound bunches and banded (left). They are wrapped in a sheet of cellophane on which the brand name is printed, and banded again (right).

For freezing, spears are cut to five-inch lengths and packed on steel trays (left). The butt ends cut away are sold in separate packages so labeled. The trays of spears are then steam blanched at 220° for three minutes (lower left). The trays of blanched asparagus move down the assembly line, and are packaged in boxes by a double row of workers (below).



THE GOLDEN NEMATODE
Dangerous Immigrant

Potato and tomato plants may be hosts to life-sucking nematodes

BACK in 1941, a Long Island potato farmer from south of Hicksville walked into his county agricultural agent's office and posed a problem that sent USDA officials hurrying to examine the plant quarantine laws on imported plants.

The Nassau County potato grower couldn't understand why his plantings had given increasingly-reduced yields for several years. A soil analysis returned a frightening report. The potato field was being attacked by a major European potato pest until then unknown in this country—the golden nematode.

Nematologists held their breath. Once established in a field, the golden nematode was extremely difficult to control. What effect would this new "immigrant" have on the potato crop?

Golden nematode cysts adhere to and feed upon potato roots. Each cyst may contain 400 eggs.

The potatoes at left were harvested from one acre of non-infested soil, those at right from one acre of heavily-infested soil. Potatoes at left yielded 263 bushels of U.S. No. 1 grade, with total yield of 356 bushels. Those at right yielded only 64 bushels of U.S. No. 1, with total yield of 149 bushels.

State and federal plant inspectors tightened inspection measures. Their efforts have thus far proved successful. Thirteen years later, the golden nematode is confined in about 6,000 acres of potato fields in that one area of Long Island.

The golden nematode was found in an isolated potato patch in Germany 70 years ago, and is now reported in many countries of Europe, including England. More recently it has been found in Spain, Mexico, and Peru.

A minute, eel-shaped organism, it attacks potato and tomato plants by working itself into the roots and literally sucking the life out of the plants.

Golden nematodes can move only a few inches a year under their own power. They are spread chiefly by man, who unknowingly transports infested soil adhering to farm machinery and containers.

Quarantines are thus designed to prevent the spread of the pest through strict inspection of potential carrier materials, such as potato, tomato, and other host plants, nursery stock, topsoil, machinery, and containers from exposed or infested fields.

Since 1912 federal quarantines have prohibited the entry of potatoes from practically every European country. All plant material coming into the United States is required to be free from soil.

An incident in 1950 illustrates just how rigid this inspection must be. A large shipment of lily-of-the-valley pips arrived in New York City from Hamburg, Germany. The dock inspectors gave them their usual thorough inspection, since these plants were a known host of the stem and bulb nematode and carried some sandy soil on their roots.

They found not the nematode which they suspected, but instead a smooth, dark-red, spherical body which they identified as the egg-filled cyst of the golden nematode.

Further inspection revealed that the whole shipment of pips was contaminated with golden nematode cysts, each of which contained 10 to 400 eggs. Distribution of the lily-of-the-valley pips to florists throughout the

(*Continued on page 15*)

STATE NEWS

Oregon Dehydrates Snap Beans

Dehydrated snap beans for the GI's ration have been developed by Oregon food technologists for the U.S. Quartermaster Corps.

The dehydrated beans are nine-tenths lighter and three-fourths smaller than canned or frozen beans, L. A. Pettit, food technologist at Oregon State College, says. When cooked in water, they are restored to their natural shape and about nine-tenths of their fresh weight. What's more, taste testers at the college have rated the cooked dehydrated beans higher or just as acceptable as canned or frozen green beans.

Blue Lake pole beans appear to be the best variety for dehydrating, Pettit said. The beans were dehydrated by a combination of freezing and circulated heated air. Moisture content was reduced from 89 to three per cent. The beans were then steam blanched, sulfited, and frozen to preserve color, flavor, form, and texture.—*Harold and Lillie Larsen.*

Outlook Promising For Buckeye State Spuds

The potato outlook in Ohio is much improved over a year ago, because of good weather and improved grading and packaging techniques.

The industry centers around the Ohio Potato Growers Association, which supervises the grading and packaging of "Buckeye Brand" potatoes and boasts that more "Buckeye" potatoes are sold in Ohio than any other brand.

To assure consumers of a dependable product, growers who desire to pack "Buckeye" potatoes must this year sign an agreement to pack their crop under government inspection. They are packed in consumer-size packages, either mesh window or solid pack, and offered either as a washed or unwashed product. Besides the U.S. No. 1 inspected "Buckeye Brand," the Ohio industry supplies other brands and grades, as well as chipping potatoes throughout the July-to-March marketing season.

Estimates call for a five million-bushel crop on 22,000 acres.

Major late varieties this year include Katahdin for fresh market, and Russet Rural, Kennebec, and Sebago, grown largely for the potato chip industry.—*V. E. Keirns, Mgr., Ohio Potato Growers Assn., Columbus.*

Cornell Develops Two New Varieties

A new muskmelon, Delicious 51, and a new tomato, the Valnorth, are being acclaimed by plant breeders at Cornell University, Ithaca, N. Y., where they were developed.

The new muskmelon meets the need for an early variety resistant to fusarium wilt, a serious disease of muskmelons in New York state. The new variety is the end product of a breeding program begun in 1944 with the crossing of Iroquois, a fusarium-resistant variety, and Delicious, an early variety.

The Valnorth tomato is basically the Valiant with several days' earlier maturity, and smaller fruit size. The earliness comes from crossing Valiant with Farthest North, which ripens about three weeks earlier than Valiant. Valiant was used because of its popularity as an early variety in New York.

Wisconsin Launches Potato Promotion Program

The Wisconsin State Brand potato program for 1954 was launched in October, aimed at supplying nearby markets with high quality Wisconsin-grown potatoes. This year the state brand potatoes will go into all major Wisconsin markets as well as Chicago, following a successful test program in Madison markets last year. Only potatoes packed in 10 to 50 pound bags, U.S. No. 1 size A, federal-state inspected, can be tagged with the Wisconsin State brand.

Lovely Jayne Shivers, Allen, Md., shows some of the sweetpotatoes that have helped to make her eastern shore famous. Crowned Maryland's vegetable queen in May, she has appeared on four TV shows and has made several public appearances under her crown. Jayne will represent Maryland vegetable growers at the annual convention of the VGAA in Syracuse, N.Y., November 29-December 2.

An active advertising campaign is a vital part of the program. The Wisconsin State Department of Agriculture, Wisconsin Potato Growers' Association, and Wisconsin College of Agriculture are working together on the program.

As the potato harvest nears completion, the crop is of excellent quality, although production is down 17 per cent from 1953. This year 53,000 acres were planted, compared with 62,000 acres in 1953. Yields per acre are somewhat lower, particularly where irrigation was not used.

Russet Burbank acreage took another step forward, with 1954 acreage estimated at about 10,000, including table stock and certified seed. Growers are making more profit with this variety, because of higher prices and demand. Success with Russet Burbank depends upon these factors: suitable soil type, proper seed size, proper spacing, irrigation, and adequate fertilization.—*John A. Schoenemann, Ext. Spec., Madison.*

Attendance at Cornell University Vegetable Variety Field Days, September 13-14, was high again this year. Representatives of 27 seed companies showed keen interest in the performance of the various strains and varieties. Pictured above, Dr. John Carew leads a discussion on the merits of the various onion varieties. The variety trials were supervised by Dr. Carew and John Wiebe. Much interest was also shown in the firmer and "crackproof" tomato varieties. Following week, members of the Northeastern Vegetable and Potato Council visited the trial plots and exchanged views with the plant breeders.—Raymond Sheldrake, Ithaca, N. Y.

S. Dakota Tomato Keeps Till December

Fresh tomatoes in December are a possibility with the development of hybrid tomato No. 65 by South Dakota State College. According to Dr. R. L. Foskett, horticulturist at the state college agricultural experiment station, the new hybrid is proving its good keeping qualities. It is a late maturing variety, and keeps well when harvested green. It is a smooth, attractive fruit of good quality and the plant is vigorous. Seed for this hybrid will soon be available commercially.

(*Continued on page 17*)

Program of

46th ANNUAL CONVENTION
VEGETABLE GROWERS ASSOCIATION OF AMERICA, INC.

NOVEMBER 29 — DECEMBER 2, 1954 AT SYRACUSE, N. Y.

in co-operation with
National Association of Greenhouse Vegetable Growers
Empire State Potato Club, Inc.
New York State Vegetable Growers Association

A. Lee Towson, President
Seabrook Farms, Bridgeton, N. J.

Joseph S. Shelly, Secretary
528 Mills Bldg., Washington 6, D. C.

MONDAY MORNING—NOVEMBER 29

10:00 Board Meeting—Vegetable Growers Association of America—Parlor A, Hotel Syracuse.

MONDAY AFTERNOON—NOVEMBER 29

1:00 Registration and Information—Hotel Syracuse.
1:00—4:00 Board Meeting—VGAA—Parlor A, Hotel Syracuse.

MONDAY EVENING—NOVEMBER 29

6:00 Dinner with Local Leaders and Wives—Parlor D, Hotel Syracuse.
8:00 Reception—East Room, Hotel Syracuse. "Among Vegetable Growers in Europe"—Mr. & Mrs. John Carew.

TUESDAY MORNING—NOVEMBER 30

7:30 Supply Men's Breakfast—Persian Terrace, Hotel Syracuse.
7:30 Young Executives' Breakfast and Business Meeting—Dr. Roger Corbett Presiding—Onondaga Hotel.
8:00 Registration—Exhibit Floor, War Memorial Building.
10:00 Business Meeting—VGAA—War Memorial Building.

TUESDAY AFTERNOON — NOVEMBER 30
GENERAL SESSION

Exhibit Hall, War Memorial Building
A. Lee Towson, Jr., presiding

12:00 Registration—War Memorial Building
1:45 Invocation—Rev. Hugh Gigner, Plainsville, N. Y., Christian Church.
Greetings—John Wickham, Cutchogue, N. Y.
2:00 ADDRESS—Dr. Homer C. Thompson, former Professor of Vegetable Crops at Cornell University.
3:00 "Problems in Foreign Trade"—Gustave Burmeister, Foreign Agricultural Service, USDA, Washington, D. C.
3:30 "Neighborly Trade in Vegetables"—E. G. Paige, Fruit and Vegetable Division, Canadian Department of Agriculture, Ottawa, Canada.

TUESDAY EVENING—NOVEMBER 30

6:00 Clam Bake—Supply Men's Entertainment—Hinerwadel's.

WEDNESDAY MORNING—DECEMBER 1

7:30 Breakfast Meeting—Presidents, Secretaries of Affiliated Associations and Extension Workers—Persian Terrace, Hotel Syracuse.
7:30 Breakfast Meeting—Directors, Empire State Potato Growers—Onondaga Hotel.
7:30 Breakfast Tour—Visit and Breakfast at Syracuse Produce Market followed by Tour of P & G Warehouse.

SECTIONAL MEETINGS
POTATO PROGRAM

Room 232 War Memorial Building
Chairman—H. J. Evans

9:30 "Recent Advances in Cultural Practices"—M. W. Meadows, Assoc. Prof. and Extension Specialist, Dept. of Vegetable Crops, Cornell University, Ithaca, N. Y.
10:00 "Potato Disease Control"—R. S. Dickey, Asst. Prof. and Extension Specialist, Dept. of Plant Pathology, Cornell University, Ithaca, N. Y.
10:30 "Legislation and the Potato Industry"—F. Ridgeley Todd, Director, VGAA, and Director of Farms, John H. Dulany & Son, Inc., Fruitland, Md.
11:15 "What Price for the '54 Crop?"—L. H. Davis, Assoc. Prof. and Extension Specialist in Marketing, Dept. of Agricultural Economics, Cornell University, Ithaca, N. Y.

GREENHOUSE GROWERS PROGRAM

Room 206 War Memorial Building
Chairman—O. Keith Owen

9:30 "Soil Testing for Greenhouse Crops"—Ward West, Rochester, N. Y., and W. C. Kelly, Assoc. Prof., Vegetable Crops, Cornell University.
10:15 "Greenhouse Vegetables in Massachusetts"—Robert Young, Prof. of Vegetable Crops, University of Massachusetts.
11:00 Meeting—National Association of Greenhouse Vegetable Growers.

WEDNESDAY AFTERNOON—DECEMBER 1
GENERAL SESSION

Exhibit Hall, War Memorial Building
Chairman—A. C. Thompson

2:00 "Modern Weed Control Methods"—Robert Sweet, Prof. of Vegetable Crops, Cornell University.
2:45 "Soil Management"—Dr. Frank App, Research Director, Seabrook Farms, Bridgeton, N. J.
3:30 "Laborsaving Equipment"—Forum Discussion.

WEDNESDAY EVENING—DECEMBER 1

8:00 Business Meeting—Delegates, VGAA—War Memorial Building, Exhibit Hall.
8:00 Business Meeting—Empire State Potato Club—Room 232 War Memorial Building.
8:00 Business Meeting—New York Vegetable Growers Association—Room 206 War Memorial Building.

THURSDAY MORNING—DECEMBER 2

7:30 Breakfast Meeting—Directors, Empire State Potato Club—Onondaga Hotel.
7:30 Breakfast Meeting—New York Vegetable Growers Association—Hotel Syracuse.

SECTIONAL MEETINGS
PROCESSING CROPS PROGRAM

Room 206 War Memorial Building
Chairman—A. W. Chambers

9:30 "Benefits from Grower-Processor Co-operation"—Francis Raymaley, Seabrook Farms, Bridgeton, N. J.
10:00 Demonstration—Junior Vegetable Growers, N. Y.
10:20 "Economics of Growing Processing Crops"—William H. Sherman, Sec'y, New York Canner-Freezer Assn.
10:50 "Our Expanding Program on Processing Crops in New York"—A. J. Heinicke, Director, Geneva Agri. Exp. Station, Cornell University.

MUCK CROP PROGRAM

Room 232 War Memorial Building
Chairman—James D. Swan, Jr.

9:30 "What We Can Expect from Hybrids"—H. M. Munger, Prof. of Vegetable Crops, Cornell University.
10:00 "Keeping Ahead of Muck Insects"—W. A. Rawlins, Prof., Entomology, Cornell University.
10:30 "New Approaches to Muck Crop Diseases & Nematodes"—A. Sherf, Prof. of Plant Pathology, Cornell University.
11:00 "New Methods of Handling Muck Crops"—G. J. Raleigh, Prof. of Vegetable Crops, Cornell University.

THURSDAY AFTERNOON—DECEMBER 2
SECTIONAL MEETINGS
MARKETING PROGRAM

Room 206 War Memorial Building
Chairman—Paul Dickman

2:00 "New Ways of Handling Vegetables"—Dr. John Hartman, Prof. of Vegetable Crops, Cornell University.
2:40 Demonstration—Junior Vegetable Growers of N. Y.
3:00 "Week-End Buying and the Vegetable Grower—The Trend"—Tom Rich, P & G Food Stores, Syracuse; "How to Meet the Trend"—Arthur Young, Glen Head, Long Island.

POTATO PROGRAM

Room 232 War Memorial Building
Chairman—H. J. Evans

2:00 "New Developments in Potato Insect Control"—W. A. Rawlins, Prof., Dept. of Entomology, Cornell University.
2:30 "Where Do We Go from Here, Boys!"—Ora Smith, Prof., Dept. of Vegetable Crops, Cornell University.
3:15 "Progress on Potato Promotion Program"—W. M. Case, Executive Director, National Potato Council, Washington, D. C.
4:00 Business Meeting—Delegates, VGAA—War Memorial Building.

THURSDAY EVENING—DECEMBER 2

6:30 Annual Banquet—Crowning of National Vegetable Queen, followed by dancing—Grand Ballroom, Hotel Syracuse.
Toastmaster—C. Chester DuMond, Commissioner of Agriculture, Albany, N. Y.

WOMEN'S PROGRAM

MONDAY EVENING—NOVEMBER 29

8:00 Reception—See General Program.

TUESDAY MORNING—NOVEMBER 30

9:30—11:00 Registration at Exhibit Hall, War Memorial Building.
11:15 Get-together—Hotel Syracuse, Parlor F—Followed by Short Business Meeting of VGAA Auxiliary.

TUESDAY AFTERNOON—NOVEMBER 30

General Convention Sessions—See General Program.

TUESDAY EVENING—NOVEMBER 30

Clambake—See General Program.

WEDNESDAY MORNING—DECEMBER 1

10:30 Annual Business Meeting of VGAA Auxiliary—Hotel Syracuse, Parlor F.

WEDNESDAY AFTERNOON —DECEMBER 1

1:00 Luncheon—Hotel Syracuse, Parlor F. Followed by Pageant of Gifts "All Wrapped Up For Christmas," presented by Rose McGean of E. W. Edwards & Son.

WEDNESDAY EVENING—DECEMBER 1

7:30 Annual Business Meeting of New York State Women's Auxiliary to Vegetable and Potato Growers—Hotel Syracuse, Parlor F—Entertainment.

THURSDAY MORNING—DECEMBER 2

9:45 Tour—Onondaga Pottery, home of Syracuse China. Bus will leave from Warren St. entrance, Hotel Syracuse.

THURSDAY AFTERNOON—DECEMBER 2

Free for shopping, sight-seeing, etc.
Also see General Program for General Convention Sessions.

THURSDAY EVENING—DECEMBER 2

6:30 Banquet and Queen's Program—See General Program.

GREEN MAGIC *with* CHELATED IRON

Florida growers get remarkable results from new treatment for iron chlorosis

By WILLIAM G. MITCHELL

Florida Agricultural Experiment Stations

"IT works just like magic." That remark, made by Henry Schumacher, Jr., of Eureka Hammock near Sanford, Fla., just about sums up what vegetable growers in that area think about the use of chelated iron on their crops.

Schumacher, who has been farming in the Sanford vegetable growing area since 1926, had five acres of celery last winter that didn't seem to be growing right. Ten days after using iron chelate in a spray this field was green again, and the crop made a very good yield. After having tried both the foliar spray and soil applications, he prefers the spray application.

Victor M. Greene, another of Sanford's better growers, used chelated iron on 15½ acres of chlorotic sweet corn last winter. He made three spray applications using one to two pounds of chelated iron per 150 gallons of water per acre. The corn greened up very well, Greene says.

W. E. Kirchhoff, Jr., whose primary interest is growing gladiolus blooms for market, has used chelated iron with striking results on these plants and also on cucumbers. These cucumbers—12 acres of them—were given one spray of iron chelate this spring at one pound per acre with very good results. Other gladiolus growers in the area will not plant glads on old fields without soil applications of chelated iron.

Spreader-Sticker Used

Last winter, A. B. Tedford treated 22 acres of cabbage and four acres of cauliflower with chelated iron. "I got excellent results on young cabbage," he declares, "but the spray burned older heads. It really set some of my older cauliflower afire, but gave excellent results with the younger cauliflower." Tedford used two pounds per acre of the chelated iron in a spray. He points out that a spreader-sticker helps with such sprays.

Drs. C. D. Leonard and Ivan Stewart of the Florida Citrus Experiment Station were the first workers in the country to discover that chelates could supply available iron to plants in the field. Working with citrus, they found this was the only successful way to green-up trees affected with iron chlorosis. Dr. Philip J. Westgate of the Central Florida Experiment Station near Sanford has done considerable work on the use of chelated iron for vegetables and ornamentals. In 1952, Dr. Westgate applied chelated iron—Fe-EDTA—to chlorotic corn plants. They greened within a week, even though the soil had a high concentration of copper, which contributes to iron chlorosis.

Henry Schumacher, Jr., shown with part of his harvesting crew in a field of endive. Last winter Schumacher treated chlorotic celery with iron chelate. Ten days later the field was green again.

"Healthy" Plants Respond

In a test with 17 of the most widely grown vegetables in central Florida last fall, Dr. Westgate discovered that vegetables may respond to applications of chelated iron even though they show no symptoms of iron chlorosis. Half of each row in these tests was treated with chelated iron—half was not. In half of the test area, the treatment was three rates of chelated iron in the soil—nine, 18, and 36 pounds of 12 per cent chelated iron per acre. In the other half of the test area, the treated portion got three rates of the iron sprayed on the plants. These rates were one, two, and four pounds of chelated iron per 50 gallons of water per acre.

Some of these vegetables showed no signs of iron chlorosis in the untreated parts of the row, but most of them re-

(*Continued on page 12*)

VARIETIES YOU SHOULD KNOW

Burpee's Big Boy Giant Hybrid Tomato

Largest of the Burpee Hybrids—the tomato for the particular trade, a true F_1 hybrid. Huge, perfectly smooth, firm, red fruits that bring maximum returns on both roadside stands and the market.

Many weigh 1 lb. or more; average size 10 ozs. At its peak in midseason but keeps on bearing large fruits after many varieties decline in both yield and size. Does well either staked or not.

Every grower needs Big Boy. A trial planting will convince you. Complete information and low growers' prices mailed on request.

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CALENDAR OF COMING MEETINGS & EXHIBITS

Nov. 2–4—Western Growers Association Annual meeting, Hotel del Coronado, Coronado, Calif. C. B. Moore, Exe. Vice-Pres., 606 South Hill St., Los Angeles 14.

Nov. 4–5—Minnesota Fruit Growers Assn., and Wisconsin State Horticultural Society joint annual meeting, Winona, Minn.—J. D. Winter, Sec'y, Minn. Assn., University Farm, St. Paul 1.

Nov. 9–11—Annual Wisconsin State Potato Show, Antigo.—Harold Simons, Sec'y, Wis. Potato Growers' Assn., Inc., Antigo.

Nov. 15–17—American Veneer Package Association, Park Sheraton Hotel, New York City. Association headquarters, 1225½ North Orange Ave., Orlando, Fla.

Nov. 16–17—Wisconsin State Horticultural Society and Wisconsin Apple Institute joint annual convention, Retlaw Hotel, Fond du Lac.—H. J. Rahmlow, Sec'y, 424 University Farm Place, Madison 6.

Nov. 17–18—Ohio Pesticide Institute winter meeting, Neil House, Columbus.—J. D. Wilson, Dept. of Plant Pathology, Ohio Exp. Sta., Wooster.

Nov. 17–19—Iowa Fruit Growers Association annual meeting, Memorial Union Hall, Iowa State College, Ames.—Glenn Raines, Sec'y, State House, Des Moines.

Nov. 18—Nebraska State Horticultural Society annual meeting, Nebraska City.—Wayne C. Whitney, Sec'y, Lincoln.

Nov. 29–Dec. 1—Illinois State Horticultural Society, Illinois Fruit Council, and American Pomological Society joint meetings, Abraham Lincoln Hotel, Springfield.—Harold J. Hartley, Sec'y, ISHS, Carbondale, Ill.

Nov. 29–Dec. 2—Vegetable Growers Association of America, Inc., 46th annual convention, in co-operation with National Association of Greenhouse Vegetable Growers, Empire State Potato Club, Inc., and New York State Vegetable Growers Association, Hotel Syracuse and War Memorial Bldg., Syracuse, N. Y.—Joseph Shelley, Sec'y, VGAA, 528 Mills Bldg., Washington 6, D. C.

Dec. 1–2—Connecticut Pomological Society 64th annual meeting, Hotel Bond, Hartford.—S. P. Hollister, Sec'y, Storrs.

Dec. 2—Arkansas State Horticultural Society 75th annual meeting, Springdale.—Earl J. Allen, Sec'y, Fayetteville.

Dec. 2–3—Kansas State Horticultural Society annual meeting, Manhattan.—W. G. Amstein, Sec'y, Manhattan.

Dec. 2–3—Oregon State Horticultural Society annual meeting, Corvallis.—C. O. Rawlings, Sec'y, Corvallis.

Dec. 5–9—National Junior Vegetable Growers Association 20th annual convention, Cincinnati, Ohio.—Grant B. Snyder, Adult Advisor, Univ. of Mass., Amherst.

Dec. 6–8—New Jersey State Horticultural Society annual meeting, Hotels Claridge and Marlborough-Blenheim, Atlantic City.—Ernest G. Christ, Sec'y, New Brunswick.

Dec. 6–8—Washington State Horticultural Assn. 50th annual meeting, Capitol Theater, Yakima.—John C. Snyder, Sec'y, Pullman.

Dec. 7–9—Michigan State Horticultural Society annual meeting, Civic Auditorium, Grand Rapids.—H. D. Hootman, Sec'y, East Lansing.

Dec. 9–10—Tennessee State Horticultural Society annual meeting, Knoxville.—A. N. Pratt, Sec'y, 403 State Office Bldg., Nashville.

Dec. 10–11—Utah State Horticultural Society annual meeting, Hotel Utah, Salt Lake City.—A. Stark, Acting Sec'y, 2225 So. 5th East, Salt Lake City.

Dec. 13–14—Iowa State Vegetable Growers Association 41st annual meeting, Hotel Hanford, Mason City.—C. L. Fitch, Sec'y, Ames.

Dec. 14–15—Peninsula Horticultural Society annual meeting, Capitol Grange Hall, Dover, Del.—Robert F. Stevens, Sec'y, Box 150, Newark, Del.

Dec. 16—Southern Minnesota Vegetable Growers Association annual meeting, Albert Lea.—Juel B. Nelson, Sec'y, Albert Lea.

Meetings in 1955

Jan. 31–Feb. 3—United Fresh Fruit and Vegetable Association annual meeting, Hotel Commodore, New York City.—Association headquarters—777 14th St., N. W., Washington 5, D. C.

Feb. 7–9—Ohio Vegetable and Potato Growers Association 40th annual convention, Neil House, Columbus.—E. C. Wittmeyer, Sec'y, Columbus.

Mar. 21–22—Kern County Potato Growers Association 11th annual convention, Bakersfield Inn, Bakersfield, Calif.

Aug. 16–20—Centennial of Farm Mechanization, Michigan State College, East Lansing.—A. W. Farrall, Head, Agr'l Engng. Dept., MSC, East Lansing.

Dr. Philip J. Westgate of Central Florida Experiment Station shows difference in growth between iron deficient and normal pepper plant. In foreground are other iron deficient plants around an artesian well. Dr. Westgate attributes this chlorosis to copper sulfate sprays mixed at this well for years, thus building up copper content of soil to high levels. This contributes to iron deficiency.

GREEN MAGIC

(Continued from page 11)

sponded to the treatments with more growth and better color. Dr. Westgate points out that the lower rate of the spray applications and all the soil applications were both safe and effective. One pound of chelated iron to 50 gallons of water per acre, applied as a spray, was seemingly as effective as 36 pounds of 12 per cent iron chelate in the soil.

Vegetables that have responded favorably to the use of chelated iron, Dr. Westgate tells us, include corn, cabbage, cauliflower, tomatoes, eggplant, peppers, cucumbers, beets, squash, carrots, mustard greens, Chinese cabbage, turnips, and radishes.

Iron deficiency—which causes a chlorosis or yellowing of the leaves of plants and trees—is a widespread disorder found in almost every state, as well as many foreign countries. Although chelating agents, such as EDTA, have been known for some time, the use of chelated iron on chlorotic plants in the field is relatively new.

How Chelates Function

The word chelate comes from the Greek word meaning claw. You might compare the action of chelates to two claws which catch and hold the iron. The iron is then free to be taken and used by plants, but does not combine with other elements to form insoluble compounds. When simple compounds such as iron sulfate are applied to the soil, the iron is often tied up and becomes unavailable to the plants. This explains why plants may be chlorotic even though there is considerable iron in the soil. It is this ability of the chelates to catch and hold metals—especially iron—in a form available to plants that gives them their importance.

How can you determine whether or not your plants need additional iron? Dr. Westgate declares that the surest way is to apply chelated iron to a very small part of your planting—whether or not the vegetables are chlorotic. If they need additional iron, they will usually respond to the treatment in about 10 days. If they do, you can treat the whole field. If you get no response, you probably have no iron nutrition problems. THE END

Chelated iron is manufactured by the Geigy Company, 89 Barclay St., New York 8, N.Y. (trade name, SEQUESTRENE, NaFe), and Versenes, Inc., Framingham, Mass. (trade names, VERSENE and FERRO-GRENE).

BUILD FOR THE FUTURE

Economy-minded vegetable growers who want to improve and expand their operations and build for the future should have the following building plans which AMERICAN VEGETABLE GROWER has available for its readers.

Working drawings showing construction details are included.

Roadside Market	$ .50
Tenant House	1.00
Pole-Type Packing House	1.00
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Send remittance in the form of check or money order to

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Plans and Booklet Dept.
Willoughby, Ohio

European Progress in MERCHANDISING POTATOES

Europe strives to improve packing their potatoes

A RECENT visitor to Europe, T. J. Lockwood of the Lockwood Grader Corp., brought back some interesting impressions of the foreign potato situation. He found a wide variance between countries in the amount of potato washing and packing in consumer-type bags.

In Germany, he said, only one-half of one per cent is put into small paper sacks, and there has been no potato washing done up to the present time. However, he reported that in the past two years Germany has started to export potatoes to other countries and for this reason they are becoming interested in installing washers.

Mr. Lockwood reported that in Sweden 80 per cent of the potatoes are being sold in small packages, possibly due to the large supply of wood pulp. Sweden is the only country which is building an automatic 10-pound sacking unit.

There is no merchandising of potatoes in Italy other than near a few of the large cities. A few potatoes in Rome are washed by hand in tubs and displayed in the market. Lockwood reported the quality of Italian potatoes was very good, both of the red and white varieties.

A new idea for picking cucumbers has been invented by Joseph A. Schanno, College Park, Ga. Cutting shears are built right into a leather glove, thus permitting easy manipulation of the shears and lessening the strain on the hands.

Progress in Holland

Holland is becoming washing and grading conscious since they have lost some of their export business, probably because of dirty potatoes. There is a polyethylene plant in Holland making bags, and recently they have started to make open mesh window bags.

There is a great deal of prepackaging being done in France on all types of produce. Paris has a polyethylene factory and bread is being put into polyethylene bags. Potatoes are handled very much in France as they are in Holland. However, France was receiving potatoes from Algiers that were washed and shipped in 60-pound sacks with paper lining.

In summing up the situation, Mr. Lockwood says that he believes it will be some time before there will be much prepackaging in Europe because of the little peddler who goes along the streets and is able to bring potatoes directly to the house. Since very few housewives have cars to drive to the central market, they prefer to do business with the street vender. THE END

New Radish Combine Harvester and Topper Slashes Costs!

Tawco Radish Combine is the answer to harvesting and topping radishes at a fraction of the cost of hand methods — and it does a better job! Thoroughly field tested, Tawco Combine has harvested and topped as high as 30 bushels an hour on a nine hour run — 269 bushels. It solves scarce labor problems — one operator can replace many people to get your crop to market at the right time. Harvests nearly 100% of crop — far more than you can secure by manual harvesting at piece rates — more than you can afford at hourly rates.

Topping is uniform, leaving approximately 1/8 inch stem. Radishes are not bruised or cut in process. They are ready for the washer and bagging.

On larger farms Tawco Radish Combine can pay for itself in a few weeks. Any radish grower large enough to merit the name will find this equipment a highly profitable investment.

Tawco Radish Combine is self-propelled with 6½ HP Kohler gasoline engine. One man operates it to harvest single row at a time in rows with nine-inch spacing or wider between center of rows. Adjustable plow lifts radishes from soil. Tops are firmly gripped between two V-belts and conveyed through topping shears. Radishes drop into gathering basket and tops are discarded to either side of the machine as directed. Rack on side holds several empty baskets. Harvests from 15 to 30 bushels an hour, depending on soil and crop conditions.

For Prices and Descriptive Literature Write

TAWCO Products, Inc.
Vegetable Harvester Division
1224 Chesapeake Ave. Columbus 12, Ohio

News from Your Suppliers

Southern Market Globe, the radish developed, introduced, and grown by the **Ferry-Morse Seed Co.**, P.O. Box 778, Detroit 31, Mich., received the award of merit from the British Royal Horticultural Society in the 1954 trials at Wisley, England.

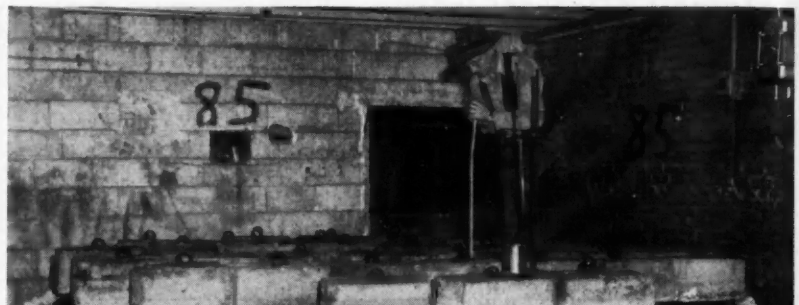
A new all-purpose tractor, said to be the most powerful of its type, has been introduced by the **Oliver Corporation,** 400 W. Madison St., Chicago 6, Ill. Called the Super 55, it is a four-wheel, adjustable tread-type tractor. It's classed as a two-three plow tractor in power size, and built to dimensions that make it an ideal prime mover for an extremely wide job range. The Super 55 has a six-forward-speed transmission, including a low gear that makes it possible to travel at ¾ mile per hour speed with sufficient power to handle just about any job. There's a choice of gasoline or diesel engine. The new tractor will accommodate all standard attached implements.

A potato harvester which is claimed to cut labor costs in half is described in a new brochure by the **John Bean Division,** Food Machinery and Chemical Corporation, San Jose 1, Calif. A four-to-eight man crew, it is said, can harvest 100 to 160 tons per day, depending on field conditions. For details, write to the company.

Home canners and handyfolks will be interested in a new booklet published by **Ball Brothers Company,** "101 New Uses for Ball Jars and Fittings." Complete with colored drawings, the 65-page booklet has special sections for the homemaker, farmer, gardener, camper, and hobbyist. For a copy, send 25 cent to Ball Brothers Company, Dept. PB, Box 1201, Chicago 7, Ill.

New western sales manager for the **Stauffer Chemical Company** is Roger W. Gunder. Mr. Gunder was formerly manager of the Los Angeles sales district and will now make his headquarters in the Stauffer San Francisco office at 636 California St.

Howard Moon of Cornwall, Conn., is the new district sales manager for **John Bean** in the New England states. Besides selling the complete John Bean agricultural line, Moon will make field demonstrations of the John Bean hydraulic and air-type sprayers for orchard, shade tree, row crop, and general farm use.



Sauerkraut being fermented in vat. Photo courtesy The National Kraut Packers Assn.

HISTORY OF SAUERKRAUT

Included in the diet of the ancient Chinese fermented cabbage has been popular for centuries

By JOHN T. KITCHIN

New Jersey Agricultural Experiment Station

AS we know it today, sauerkraut is nothing more than shredded cabbage that has been fermented in a brine of cabbage juice and salt. Originally, sauerkraut was made in order to conserve surplus cabbage for winter use. Now large quantities are canned for summer consumption as well.

At first cabbage leaves were dressed down with wine or vinegar. The builders of the Great Wall of China were fed cabbage fermented in wine to supplement their rice diet. Later halved or quartered cabbage heads were used.

It is believed that shredding the cabbage and fermenting it with salt was tried for the first time during the 16th century. This is the method in use today. Generally, it is believed the method originated in Germany, but some believe it is of Slavic origin.

Introduction into U. S.

Sauerkraut was probably introduced into the United States by German emigrants who spread its popularity as a food. It is an excellent source of vitamin C and is rich in calcium, potash, phosphorus, and iron.

The demand for sauerkraut by the people in the cities who lacked facilities for making it at home soon led to its commercial production. In this country it was first made commercially in St. Louis about 1890.

The industry soon located itself primarily on the Great Lakes because this was the area in which cabbage was to be found in greatest abundance.

In 1907 a group of men interested in the industry established The National Kraut Packers Association in Clyde, Ohio. Today the association maintains headquarters in Oak Park, Ill. The purpose of the association is to gather statistics, develop national sales promotion, and improve the quality of the pack through research. As an aid in their promotional program they annually proclaim a National Kraut and Frankfurter Week which this year took place during the 10-day period, February 4-13.

The value of the cabbage grown annually for commercial production in the United States varies between $2 and $3 million per year. According to the agricultural statistics for 1952 sauerkraut is the number six canned vegetable of today. It is led only by tomatoes, peas, corn, snap beans, and pickles. The Canning Trade Almanac for 1953 lists the following statistics on cabbage for kraut production:

Cabbage Production for Sauerkraut in the United States

Year	Harvested Acreage	Production Tons	Price Per Ton	Value of Crop
10-yr. Ave. 1941-50	18,090	179,000	$13.40	$2,270,000
1950	18,140	247,300	9.60	2,373,000
1951	15,190	174,800	12.80	2,225,000
1952	14,250	152,400	18.90	2,886,000

Four states in the Great Lakes region produce about 70 per cent of the cabbage that goes into sauerkraut: New York 30 per cent, Wisconsin 25 per cent, Ohio 11 per cent, and Indiana five per cent. THE END

THE GOLDEN NEMATODE

(Continued from page 8)

country could have proved disastrous to the potato and tomato industry.

An infestation is often not apparent until the pest has been attacking crops for several years. At first there are no above-ground evidences of plant damage. Neither potatoes nor tomatoes are disfigured to betray the nematode.

After host crops have been grown for several years in an infested field, distinct signs of plant damage appear above the ground. The first sign is poor top growth of plants in a small section of the field. This stop gradually enlarges, and additional spots of poor top growth appear. Eventually poor top growth is seen throughout the field.

Considerable wilting of plants especially at midday, stunted plants, poor root development, and early plant death can be caused by heavy infestation. In experiments at Hicksville, nematologists found up to 85 per cent reduction of potato yields in heavily infested land.

Nematode Development

The golden nematode passes through egg, larval, and adult stages in its development. This cycle requires from 38 to 48 days.

The eggs hatch within the dead, swollen bodies of fertilized females, called cysts. Each cyst may contain up to 400 eggs, and is so small that several cysts may be placed on a pinhead. The cyst forms a protective cuticle for the eggs, and as it hardens with age, the cyst changes from a pearly white color to a golden brown, hence the name, "golden nematode."

This cyst is resistant to chemicals, to drying, and to certain soil organisms. The cysts live over winter, and are not killed by freezing of the soil. Eggs have remained viable in cysts for more than 17 years.

The golden nematode can be detected by examination of the host-plant roots, but surveys are conducted chiefly through analysis of soil samples.

Collection of Soil Samples

Shortly after the discovery of the golden nematode, soil-sampling surveys were started. They have been expanded each year to cover all the commercial potato and tomato producing areas in the United States. Samples of soil are collected at places where host crops have been grown, stored, or handled, and at nurseries, greenhouses, and disposal sites.

About a tablespoonful of soil is taken on the end of a pointed trowel every eight paces in a grid pattern. In this way from four to six pounds of soil are obtained from each acre surveyed.

Preventive Measures

There is no way of completely controlling the golden nematode. Soil fumigation and crop rotation will reduce the nematode population, but will not eradicate them completely.

State and federal quarantines have been set up to prevent the spread of the nematode to uninfested areas. New York state restricts the marketing of potatoes, nursery stock, top soil, and root crops grown on infested land. Federal inspectors examine suspected imported materials.

1) Do not use second-hand containers such as burlap bags, crates, and barrels when harvesting potatoes.

2) Do not bring used machinery on a farm unless it has been steam-cleaned or fumigated with methyl bromide.

3) Do not spread grader soil and debris from community graders onto farm lands.

4) Do not grow potatoes or other host crops on infested fields.

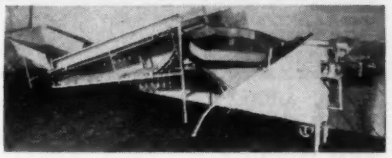
5) Make sure that transient farm workers do not innocently transport cysts in their vehicles and clothing to your farm.

6) Plant only certified seed.

7) Rotate crops on noninfested potato land but do not include tomatoes in the rotation.

This article was prepared with the aid of J. F. Spears, head of the Golden Nematode Control Project, P.O. Box 96, Hicksville, N.Y. He will be happy to send you a free copy of USDA Leaflet No. 361, "The Golden Nematode."

TRESCOTT



AUTOBAGGER supplied by portable elevating roller grader. The Autobagger is equipped with apple tray which is used when delicate fruits or vegetables are bagged.

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AMERICAN VEGETABLE GROWER

Reader Service Department

Willoughby, Ohio

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Research Center Ready to Help You

We recently spent a day at the new Research Chemical Center which the American Cyanamid Company has just put into operation. American Cyanamid manufactures such popular chemicals as parathion, malathon, and a full line of fertilizers. If you happen to be in the Stamford, Conn., area, drop in to see the research center. If you have any problems concerning vegetable chemicals, write to Frank Cappy, American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.

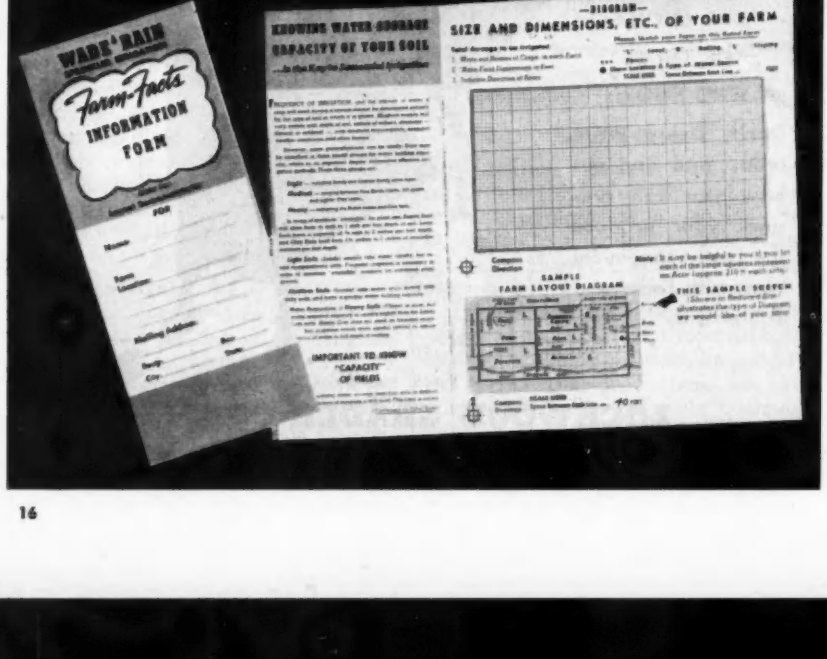
Low-cost Vegetable Buildings

It once cost about $8 a square foot to build a roadside stand, packing house, or equipment shed. The same building can now be built at $1.20 a square foot (not including the foundation). The new Milcor Lok-Rib buildings are available in many sizes and shapes. They are easily installed and will last a lifetime. If you are interested in low-cost vegetable buildings, write to T. C. Cheney at Inland Steel Corp., P. O. Box 393, Milwaukee 1, Wis.

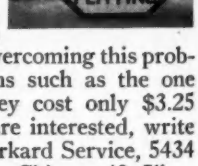
Wade'Rain Simplifies Irrigation Planning

What is the best type of irrigation system for me? How do I go about planning it? These are difficult questions for the grower to answer, and it has often seemed simpler to turn the whole problem over to an irrigation engineer, which of course means additional cost.

Growers who have used the Wade-'Rain "Farm-Facts Information Form" have found that the technical information needed for their vegetable acreage is easy to gather. This new helpful form can be a real money-saver. For your copy of the "Farm-Facts Information Form," write to Wade Newbegin, R. M. Wade & Co., 1919 N. W. Thurman St., Portland 9, Oreg.



Roadside Signs



Many would-be roadside stand customers do not stop because they feel it is unsafe and dangerous to do so. Several growers have had splendid success overcoming this problem by using signs such as the one shown above. They cost only $3.25 postpaid. If you are interested, write to Bob Klewitz, Arkard Service, 5434 N. Glenwood Ave., Chicago 40, Ill.

Fumigate Your Soil

One sure way to increase production and quality is to fumigate your soil safely, easily, and at low cost. A vegetable grower in New Jersey told us how he does it, and reported that a pamphlet entitled "How to Do Soil Fumigation with Larvacide" made the job easy and cheap. I thought you might like to have this booklet. Just write to George Silvera, Larvacide Products, Inc., 117 Liberty Street, New York 6, N.Y. Be sure to tell him you are a reader of AMERICAN VEGETABLE GROWER.

Hybrid Onion Field Day at Michigan State College, East Lansing, was attended by: FRONT ROW, from left—W. H. Gabelman, University of Wisconsin; Henry A. Jones, USDA; Edward W. Owen, Ferry-Morse Seed Co.; Dr. C. E. Peterson, MSC; D. F. Franklin, University of Idaho; Robert Lucas, MSC; Wilbur Scott, Joseph Harris Seed Co. STANDING, from left—Paul Bessey, MSC; Sylvan H. Wittwer, MSC; Pete Olesen, Crookham Seed Co.; Stanley Ries, MSC; August Kehr, Iowa State College; Jack Weigle, MSC; Herman Tiessen, MSC; Lawrence Rappaport, MSC; Roy Marshall, MSC; R. L. Carolus, MSC; Kenneth Trapp, Trapp Bros.; Jack Lingle, MSC; Bill McDonald, Crookham Seed Co.; and Fred Davis, MSC.

STATE NEWS

(Continued from page 9)

Louisiana Growers Can Make Lettuce a Cash Crop

Lettuce can be grown in Louisiana, says John A. Cox, LSU agricultural extension service horticulturist, if the grower will follow four simple rules. These are to carefully prepare the soil, plant at the proper time, use good seed, and use the right fertilizer.

The Imperial 847, Progress, or Imperial 44 are good varieties to plant in Louisiana. They give a crisp head-type lettuce.

It takes some 80 days to produce marketable heads from the time seed is planted. In south Louisiana, seed should be planted in October or November. Plant on water-firmed bed, drilling two rows to the bed.

After plants develop properly, thin so that they are from eight to 10 inches apart in the row. Uprooted plants can be transplanted in new rows. Thinning is usually done in late December or early January.

In the northern part of the state, plant seed in a hotbed, or flat, in January. Transplant to the field in late February.

Seeds germinate and grow off more rapidly if treated with arasan or spergon before planting.

SPUD SESSIONS!

Have you ever been to a potato field day? If not, you will be interested in reading this description of a typical Minnesota potato field day by Dr. Orrin C. Turnquist, Sec'y, Minnesota Vegetable Growers Association, St. Paul.

"Our demonstrations are planted by a commercial grower right in his regular field of potatoes. The plots are dug the morning of the field day and growers look them over in the afternoon. Yields and specific gravity as well as percentage of deficit and disease are determined and presented at winter meetings in the area. The main thing is that growers get to compare new and old varieties side by side at harvesttime. And that, my friends, is how we do it in Minnesota!"

Michigan Holds Onion Hybrid Field Day

Dr. Henry A. Jones of the USDA, representatives of seed companies, and midwestern agricultural experiment station workers visited the Michigan State College muck farm on Hybrid Onion Field Day, September 16. The onion breeding plots were under the direction of Dr. C. E. Peterson. The group also toured the state, visiting commercial trials being conducted throughout the state.

At two locations a panel made up of seedsmen and farmers unfamiliar with the onion breeding program selected best varieties from the 35 entries. At Stockbridge the following was the order of selection: Surprise, Abundance, B2117 x B2215, B2149 x B2215, Aristocrat, B6109 x B2215, and Epoch. At Grant the order of selection was: Iowa 163 x B2215, Aristocrat, Epoch, Encore, and Elite. The outstanding fact at both locations was that no panel member selected any open-pollinated variety.

Dr. Peterson said that when seed supplies are available, Aristocrat, Elite, and Epoch will probably be recommended in Michigan for long storage, and the hybrid Abundance for limited storage.—*S. K. Ries, Dept. of Hort., East Lansing.*

Hybrid Onions Are Choice in Wisconsin

Wisconsin growers also endorsed the new hybrid onions over the open-pollinated varieties. Demonstration plots in several locations underlined the advantages of the hybrids in higher yields, better color, greater uniformity, and better skin and type.

The new hybrids recently released by the USDA looked very promising for both muck and upland soils. These are Abundance, for storage to December, and Epoch, Elite, Aristocrat, and Encore, which can be stored until March.

A very limited supply of Encore seed is available for 1955 planting, while the other hybrids mentioned will not be available until 1957. In the meantime, hybrids Autumn Spice and Brown Beauty have proved satisfactory for Wisconsin.

Results with a new extra-early, mild-flavored hybrid, Early Harvest, have indicated that high yields of good quality onions can be obtained in southeastern Wisconsin as early as or earlier than onions grown from "sets."—*John A. Schoenemann, Ext. Spec., Madison.*

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Willoughby, Ohio

The Right Perspective

GIVE youth the opportunity to see the farm enterprise as a whole and to study its money-making possibilities, urges a reader. For therein lies the secret of keeping youth on the farm.

One step toward giving the boys this perspective is to turn over to them the farm accounts. Income tax, increased price of farm land and buildings, discriminating markets, and the closer margin of profit on which growers now operate make it more important than ever that business records be kept accurately and up-to-date.

The average farmer dislikes even the thought of records, much as he realizes their importance and necessity. Nothing furnishes a better basis for farm reorganization than a careful study of several years' records.

Youth will need some hearty cooperation and assistance in so practical an undertaking. A percentage of the net income on the farm, perhaps one or one-half of one per cent, should prove an interesting incentive. This will not only stimulate their interest but will give them a feeling of partnership. It will also increase their anxiety about profits from the farm.

The organization of farm management clubs under the guidance of a local leader, such as the county agent or an agricultural teacher, would encourage and assist these future farmers. The economist of the state agricultural extension department meeting with the group and assisting in analyzing and studying the records would do much to instill in them the necessary confidence to conduct their part of the farm enterprise intelligently and fearlessly.

Detailed cost records which take into account farm overhead as well as the per acre cost of production will reveal to these future farmers the absolute necessity for conducting the farm enterprise as a business proposition.

Given the opportunity and the right perspective, your sons—and daughters, too, for that matter—will meet the challenge and in doing so will find the farm enterprise an exciting vocation. And your tasks will be lightened at the same time.

What makes his bookkeeping son happy, our reader reports, is when the berries which are a part of their farm enterprise bring upwards of 25 cents a pint, for anything over that figure means a bonus for him.

Acres of Diamonds

EVERY time we read about growers taking advantage of facilities within their own communities, we recall Russell H. Conwell's classic lecture, "Acres of Diamonds." In this he eloquently calls attention to the fact that opportunities may exist right "in our own back yard" if we but look for them.

A unique example of taking advantage of opportunities within their grasp is told on pages six and seven of this issue. By enlisting the cooperation of a fruit co-op in the area, a group of growers in southwestern Michigan producing a quality crop of asparagus have succeeded in balancing their fresh market with frozen asparagus.

Thus they are maintaining a healthy, profitable market, to the advantage of everyone concerned, including the allied industry and the consumer. It is a tribute to the ingenuity of the aggressive men who developed the plan and worked it out to a successful conclusion.

Perhaps the identical answer won't apply everywhere, but the basic factors involved—a quality product and cooperation—could be repeated in many difference to him whether the products other vegetable areas.

It makes little difference to most consumers whether the grower who grew the lettuce he buys is a one-crop producer, or whether he grows a variety of vegetables. Nor does it make any he buys have been produced under the most modern methods of culture, including the use of good seed, proper fertilization practices, modern spray applications, and up-to-date irrigation methods. It's quality he wants and it's quality he demands, whether the vegetable is marketed in fresh form, in an attractive package, in frozen form, or in cans.

From the grower's standpoint however, good cultural and harvesting practices result in top quality and also in top yields. But the only means by which some growers can attain such desired goals is through group purchase of large-scale equipment and modern laborsaving devices.

The same holds true for marketing. Co-operative selling of a single product of uniform grade, in an identical package, will open markets no longer available to the small operator.

Let's start harvesting those "Acres of Diamonds!"

"You've grown so cold lately."

Streamlined Service

A HISTORY-MAKING event took place on October 17 in Willoughby, Ohio, the home of AMERICAN FRUIT GROWER. On that date long distance dialing across northern Ohio and to major cities to the east went into effect. We here in our publishing offices are now able to dial New York, for example, without the help of an operator. Tomorrow and the next day other areas will be included, until such telephone service spans the continent and then the world.

Thus science continues to perform miracles, making it easier to perform our daily tasks and making life more fascinating.

Coming Next Month

- Build a Plastic Greenhouse
- New Ideas in Greenhouse Bench Construction
- You Must Tell Them—or Else!
- Florida's Vegetable Nomads

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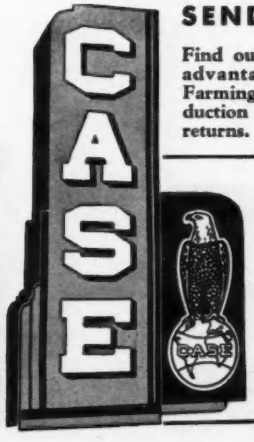
New Low-Seat Eagle Hitch Tractor in the Case 2-plow "VA" Series gives you full crop clearance for cultivating up front or behind . . . Constant Hydraulic Control for raising, lowering, or adjusting implements . . . plus the comfort and convenience of close-to-the ground operation. Low, roomy platform is reached in one step from the side. Low Bodyguard® seat has torsional rubber suspension, sponge rubber cushion with waterproof cover.

Preparing seedbeds is a snap with this low-cost, low-seat tractor and Eagle Hitch Breakaway Pivot-Action plow, tandem disk harrow, and spike-tooth harrow as shown. Also mounts many other implements including disk plow, roller-packer, spring-tooth harrows, tool-bar for planters and tillage tools, utility carrier.



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